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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,533	09/01/2006	Yoshinori Negishi	TAKIT-0202	2983
7590	01/05/2010			
Millen White Zelano & Branigan P C 2200 Clarendon Boulevard Suite 1400 Arlington, VA 22201				EXAMINER O DELL, DAVID K
			ART UNIT 1625	PAPER NUMBER
			MAIL DATE 01/05/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/591,533	NEGISHI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David K. O'Dell	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 09 October 2009.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.  
 4a) Of the above claim(s) 2 and 4-18 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,3 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

**DETAILED ACTION**

1. This application is a 371 of PCT/JP2005/003807 filed 02/28/2005 and claims priority to JAPAN 2004-057297 filed 03/02/2004.

Claims 1-8 are pending.

***Response to Election/Restriction***

2. Applicant's election of Group I and the species (compound 1, page 8, claims 1 and 3 read on the species) in the reply filed on October 9, 2009 is acknowledged. The election was made with traverse, and the examiner finds the arguments unpersuasive. The traversal is on the grounds that the restriction requirement failed to show "discussion or burden". These arguments are unpersuasive as the examiner had discussed the lack of a special technical feature as shown by compounds in US 4,351,915. With respect to "burden", this may be a reference to search burden, however this is unclear, but if this is the case it is respectfully submitted that search burden is not a criteria for a finding of lack of unity. The examiner followed practice consistent with 35 U.S.C. 372 and as can be seen below examined claim 1 is anticipated by the prior art.

As detailed in the following rejections, the generic claim encompassing the elected species was not found patentable. Therefore, the provisional election of species is given effect, the examination is restricted to the elected species only, and claims not reading on the elected species are held withdrawn. Accordingly, claim 2, which does not read on the elected species is withdrawn. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection through amendment, the amended Markush-type claim will be reexamined to the extent necessary to determine patentability of the Markush-type claim. See MPEP 803.02.

***Claim Rejections - 35 USC § 102***

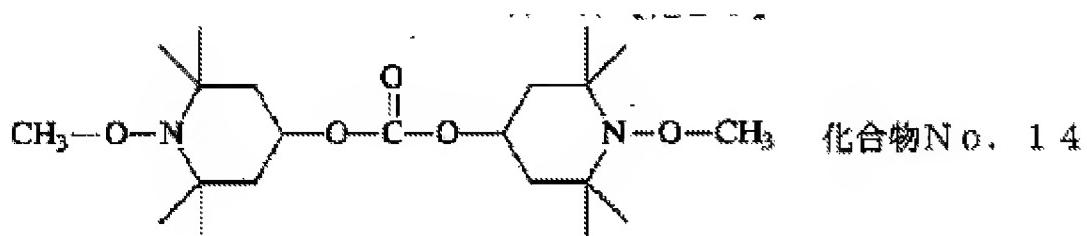
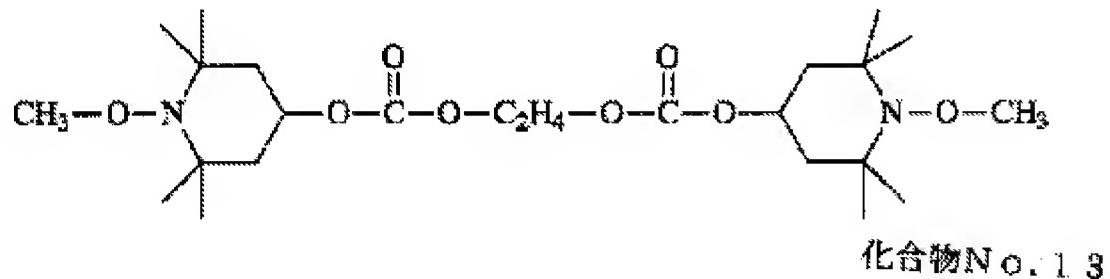
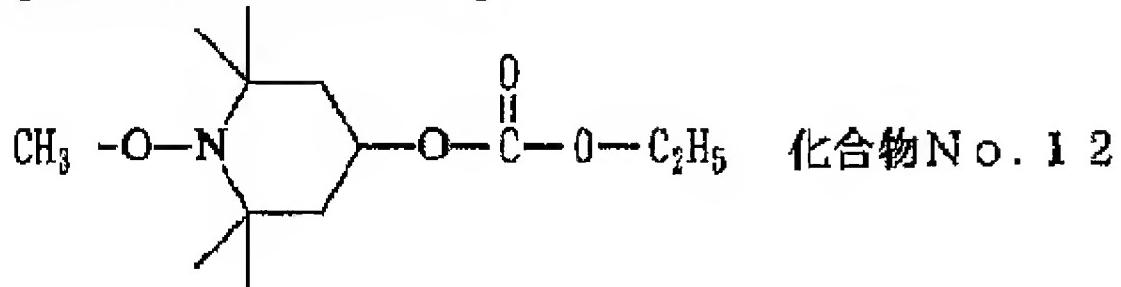
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et. al. JP 2001-210365 (machine translation provided). Yamada describes compounds of claim 1 on page 6, as shown below:

[Chemical formula 18]



Where n is 2, R1 is alkyl having 2 carbons, and R is an alkyl group (organic group) the claims are anticipated or where n is 1, R1 is of Formula III and R is alkyl, and where n is 1, R1 is alkyl having 2 carbons and R is an alkyl and so on.

***Claim Rejections – 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

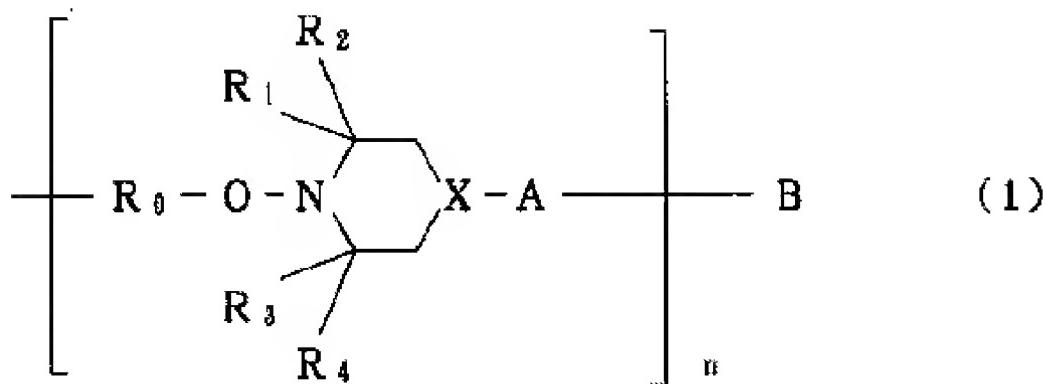
4. Claims 1 & 3 are rejected under 35 U.S.C. 103(a) as being obvious over Yamada et. al. JP 2001-210365 (machine translation and a human translation of the generic description at the top of page 4 is attached at the end of the document), in view of Xu et. al. Journal of The Electrochemical Society, 2002, 149 (5) A622-A626. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

***Determination of the scope and content of the prior art***

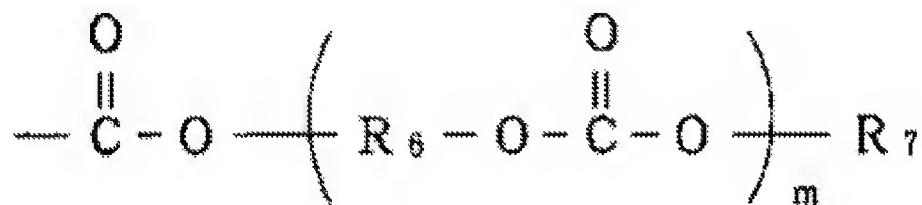
***(MPEP 2141.01)***

The JP 10154531A describes piperidinyl carbonates that are useful as flame retardant electrolytes in batteries of general formula (1) on page 4,

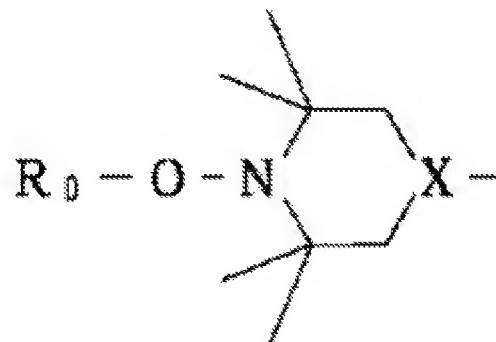
Art Unit: 1625



$R_0$  represents an alkyl group with a carbon atom number of 1 – 18. At least where  $X$  is CH and  $A$  is O, and  $B$  is



the A-B portion can be a carbonate or polycarbonate,  $R_7$  represents an alkyl group that may have



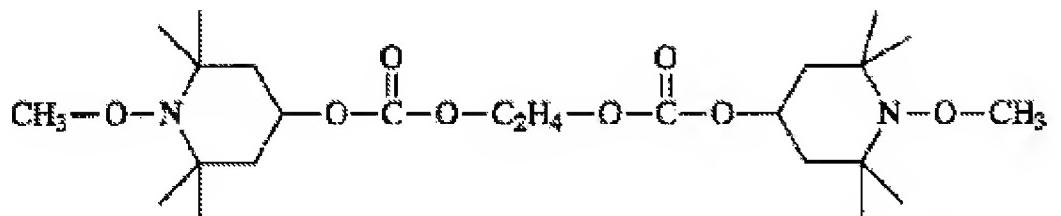
an ether bond with a carbon number of 1 – 10 or

(this is the same as the Formula III of claim 1 and 3 where  $X$  is CH),  $n$  represents an integer between 1 – 6 (the same as the instant claims), At [0017] specific alkyl groups are mentioned for

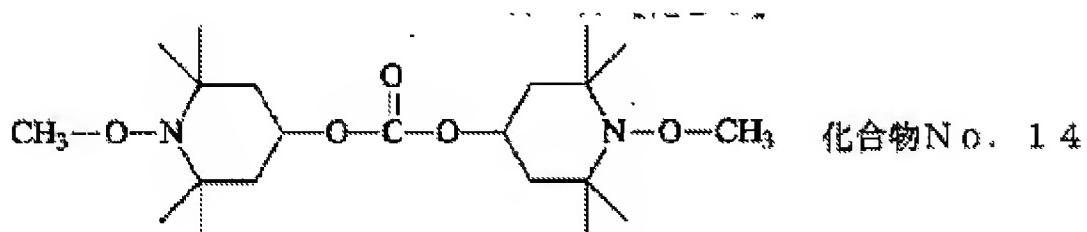
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R0 “R<sub>0</sub> is Methyl, ethyl, propyl, isopropyl, butyl, the 2nd butyl, tertiary butyl, Isobutyl, amyl, the 2nd amyl, hexyl, heptyl, octyl, Isooctyl, the 2nd octyl, 2-ethylhexyl, nonyl, decyl, dodecyl, etc.”; In all instances R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, and R<sub>4</sub> are methyl.

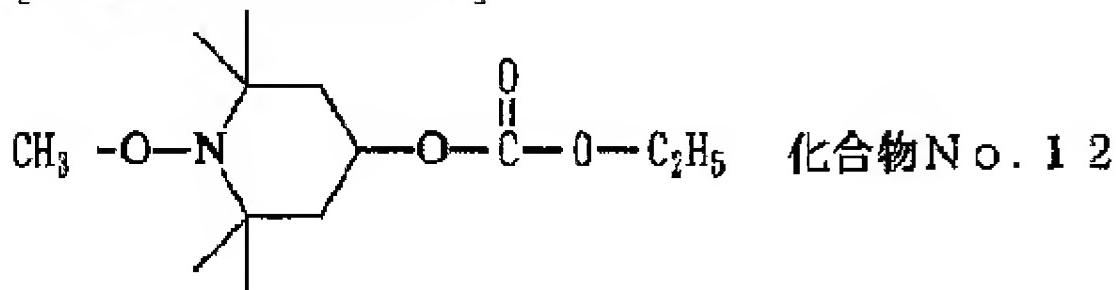
This generic description is supported by numerous working example compounds in the tables, including some highly relevant compounds that are anticipatory on claim 1 shown below:



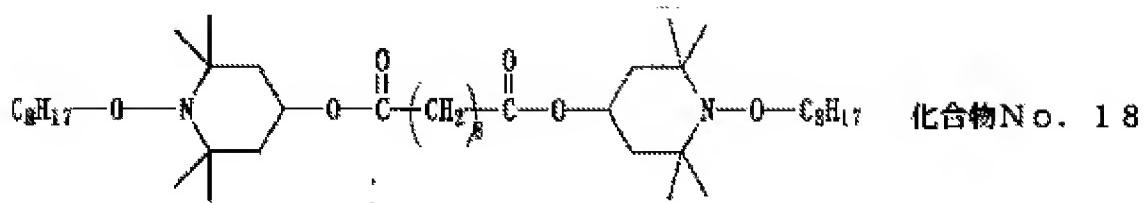
化合物No. 13



[Chemical formula 18]



Another relevant example is the ester compound 18:



In this compound an octyl carbon chain is on the piperidine bound oxygen.

***Ascertainment of the difference between the prior art and the claims***

***(MPEP 2141.02)***

Yamada et. al. JP 10154531A et. al. teach some of the compounds of the instant claim 1, however the compounds of instant claim 3 do not appear to have been exemplified. The generic description of Yamada while written somewhat differently clearly encompasses a large portion of the compounds of claims 1 and claim 3. Yamada et. al. exemplified several alkyl moieties on R0 (the R of claim 1 Formula 1), including methyl, ethyl, and octyl and described R0 as C1-C18 alkyl, however no 10-22 carbon atom alkyl groups were exemplified.

**Finding of prima facie obviousness**

***Rational and Motivation***  
***(MPEP 2142-2143)***

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to prepare the compounds of the instant case. A case of anticipation could be made ala *In re Schauman*, 572 F.2d 312, 197 USPQ 5 (CCPA 1978) or *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962), as the small genus of Formula 1 includes a listing of alkyl groups on R0 including 10 carbon and 12 carbon groups, decyl and dodecyl respectively. The

compounds of the claims at hand are analogs of old compounds. Analogs differing only in an alkyl chain length, may be *prima facie* obvious without a secondary teaching (see *In re Coes, Jr.* (CCPA 1949) 173 F2d 1012, 81 USPQ 369), however the generic teaching of Yamada et. al. points directly to C1-C18 values for this group. Both decyl and dodecyl are explicitly listed as R0 values. Moreover when taking a look at the data of Table 1, compounds 12, and 14 bearing the carbonate group, gave some of the best electrical conductivity. It is well known in the art of flame retardant electrolyte design that conductivity tends to decrease with flame retardant capability (See Xu et. al. *Journal of The Electrochemical Society*, 2002, 149 (5) A622-A626, whole document), so if one were to choose a group of the flame retardant compounds to modify, the carbonates giving the highest conductivity would be the natural choice. Given that decyl was explicitly listed as an R0 option and the carbonates were among the most conductive compounds, the instantly elected species was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary. *In re Grabiak* 226 USPQ 870, "[w]hen chemical compounds have "very close" structural similarities and similar utilities, without more a *prima facie* case may be made", *In re Deuel* 34 USPQ2d 1210, "a known compound may suggest its **analog**s or isomers, either geometric isomers (*cis* v. *trans*) or position isomers (emphasis added) (e.g. *ortho* v. *para*)".

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David K. O'Dell whose telephone number is (571)272-9071. The examiner can normally be reached on Monday-Friday 9:00 A.M. to 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on (571)272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David K. O'Dell/  
Examiner, Art Unit 1625